

Common facility example :
CERN MPT workshop

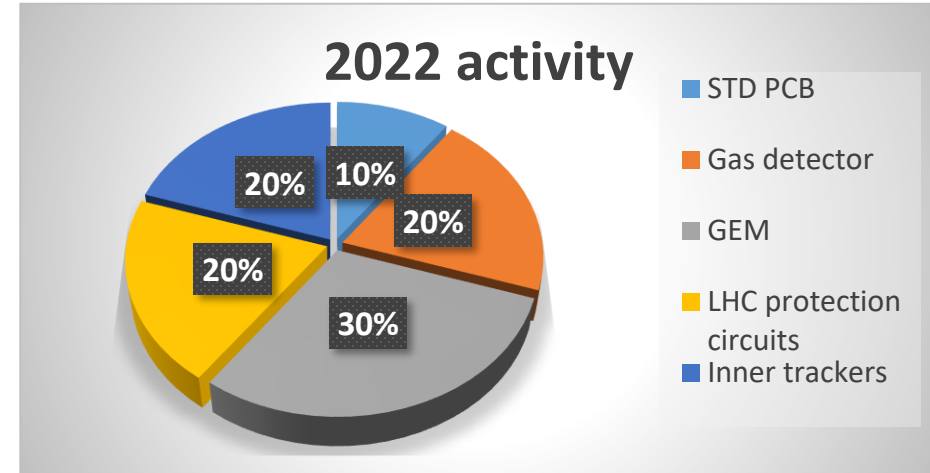
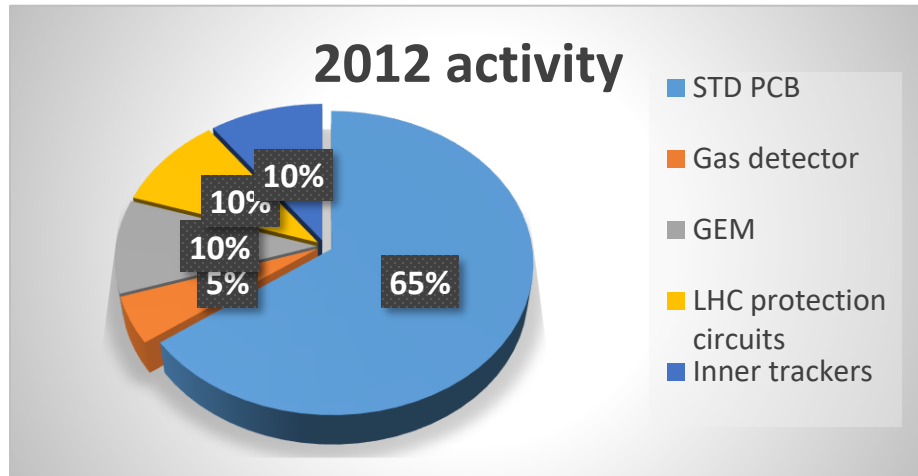
CERN MPT running rules

- MPT workshop is opened to all CERN user and all CERN recognized experiments
 - For R&D and mass productions
- The workshop is open to all RD51 Members
 - With team accounts or not (STD invoicing is possible)
 - For R&D and mass production for research application.
- Before any production for commercial applications , the CERN technology transfer group should be contacted first to set up:
 - Production License
 - Production contracts
- MPT workshop study all the requests.
 - Prior any production an offer is proposed , and invoiced after technical acceptation of the parts.
 - FIFO mode, but it happens (rarely) that the CERN program is put first (with justifications).
- MPT have connections with external companies for mass productions of:
 - GEM, THGEM
 - Micromegas
 - exotic PCBs - Ceramic circuits - thin film circuits.
- MPT have organized many times and can organize again TT transfer to any company (or simply help to organize).
 - Training directly in the companies
 - Training of company's technician at CERN

Possibility to include a new activity in CERN MPT (wire , RPC MRPC)

- I've heard this option a few time during the preliminary meetings.
- I think that the only possibility is to start smoothly
 - Train a technician or hire a technician already skilled in the new field
 - Start to accept any request in this new field
 - Review the situation after a few months and decide if this is technically and economically viable
- If it works then we can envisaged to increase the team or start sharing the work inside the existing team
 - 10 to 20% of MPT activity are still used to produce STD PCBs to level the load.
 - These 10 to 20% could be used for other purposes.
 - After these 10 to 20% the community should convince CERN to go beyond.
- But there is still some open questions
 - equipment
 - Collect existing equipment of the new field ?
 - Make requests for new equipment ?
 - Room space
 - There is probably not enough space in building 107 to welcome a new activity
 - Could we find other places at CERN ?

MPT activity



- Decrease of STD PCB production 65% → 10%
- Increase of MPGD 15% → 50%
- Increase of LHC special circuits
- Increase of inner trackers special circuits

RD51 impact on MPT workshop

- Machines for large size detector
(also used for other large size circuits)
 - RD51 management (+ATLAS NSW) helped a lot in getting an AIDA fund
 - We bought 5 machines (350 000 Euros)
 - Large development machine
 - Large stripping machine
 - Large copper etching machine
 - Large UV exposure machine
 - Large Oven
- Construction of building 107
 - The idea to make a new building appeared in 2000
 - At the beginning mainly for safety reason.
 - And later to face the growing activity coming from RD51
 - But in 2012 the decision was still pending
 - RD51 management brought new good arguments to the directorate , and they agreed to trigger the building construction
 - On top of the building cost we got a budget of 450 000 CHF to renew old machines

DLC DC magnetron deposition machine

- The possibilities of this machine were presented in a dedicated RD51 session
- Surprisingly only two RD51 members decided to join this project !
- Finally MPT , INFN (Frascati/Roma) and EP/DT decided to go forward.
 - 600 kCHF
 - 50% from MPT
 - 25% from INFN
 - 25% from EP/DT group
- The 50% from MPT are taken from the running account and considered as an investment.
- MPT will recover this budget in the coming years with the following activities:
 - DLC deposition for MPGD and may be for other detectors (RPCs , straw tubes?, TGCs?)
 - Aluminum depositions for low mass detector
 - Aluminum depositions for inner tracker detectors
 - Convertors for Gaseous detectors
 - Specific depositions
- In this case the collaboration did not played a significant role in helping to find ways to fund this machine.

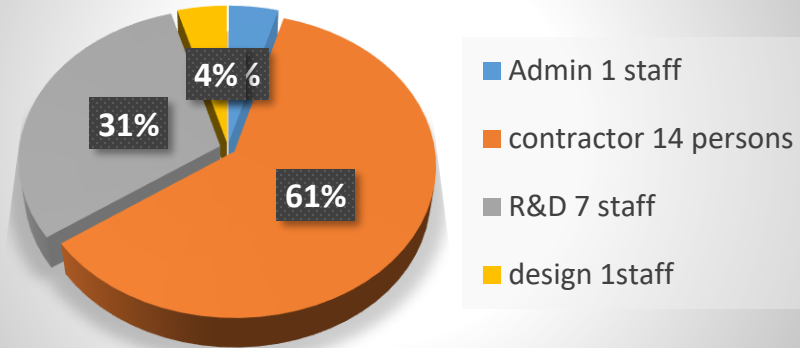
-It is undeniable that RD51 helped MPT workshop.

-AIDA and CERN were the main budget contributors.

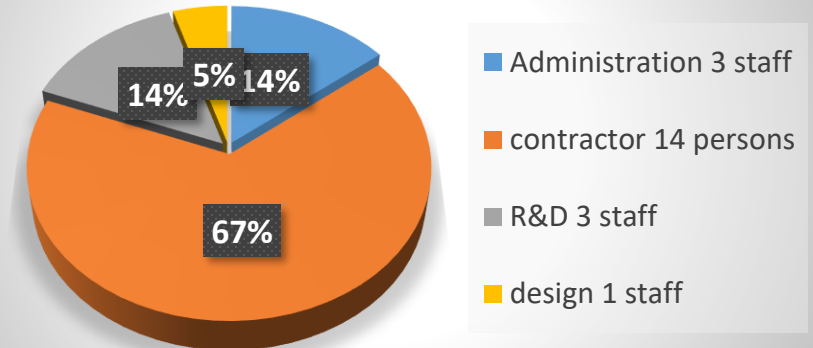
-But since we are talking about future , create new facilities etc., let me show you one more critical aspect where DRD1 should help.

MPT activity

2012 → 22 persons



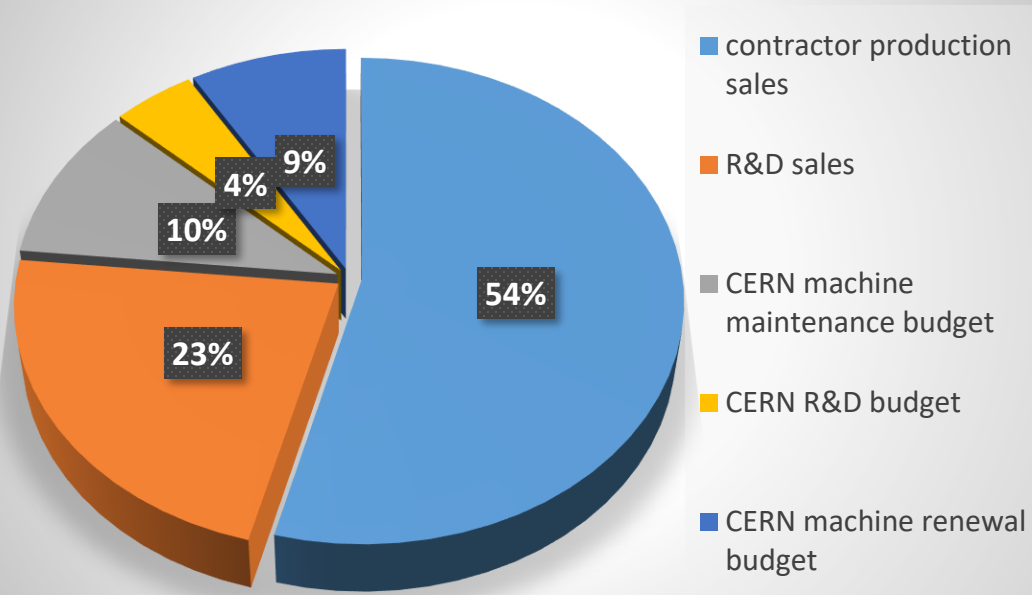
2022 → 20 persons



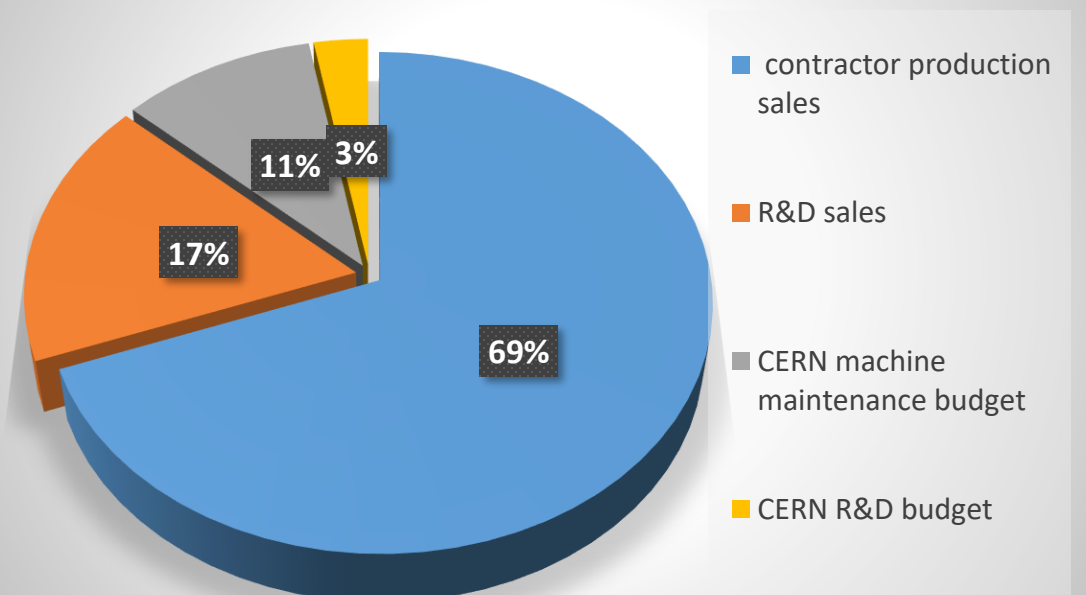
-Administrative tasks have increased: 4 to 14%
(chemical security, machine conformity, shipping and invoicing)
-Skilled personnel dedicated to R&D activities have decreased:
(2 positions lost)

MPT activity

2012 Budget income

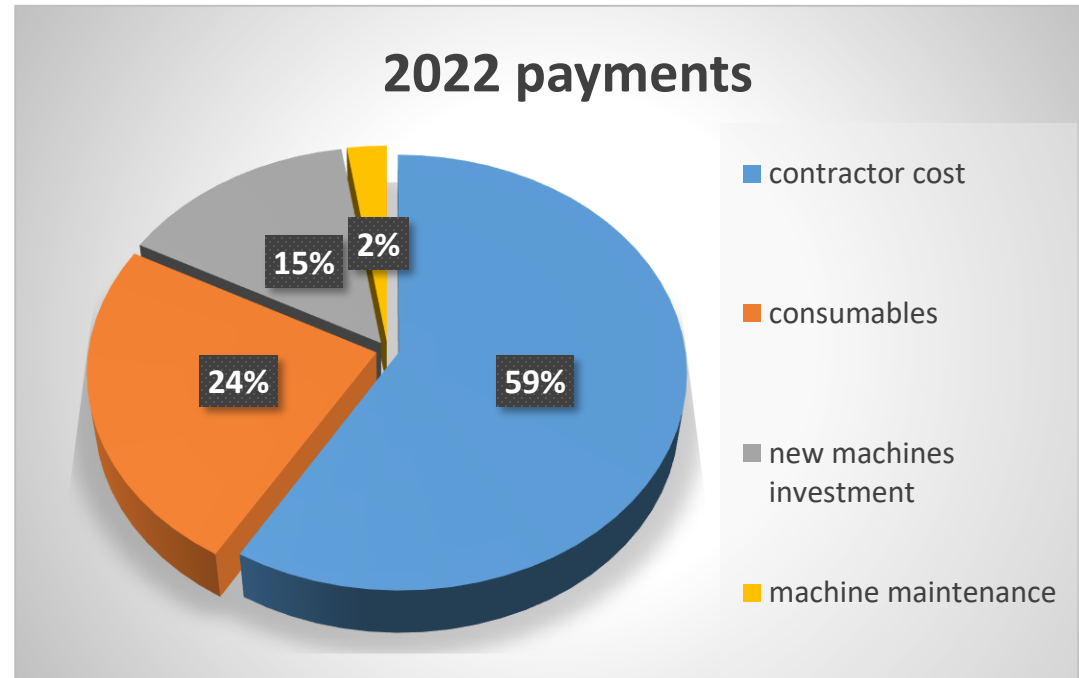


2022 Budget income



- Total incomes close to 2MCHF
- The constant budget to renew equipment have desapare
- R&D sales have decreased due to increasing admin tasks and staff reductions.
- Economically speaking we have been able to compensate these reductions by a production increase.
- but we have lost some R&D capabilities

MPT activity



-Fortunately the amount of payments correspond to incomes
-The trend is now to renew machines with the MPT running account

Conclusion

I've shown (I hope) the power of a collaboration in helping :

-to get funds for new equipment

-to renew infrastructures

But what about manpower ?

Also It will help if the community takes official position concerning expenditures decided by a few members .

I've presented a way to run a common facility
is it the direction the community wants
to follow for others common facilities ?